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"Hi! I'm Harvey, A Consent Bot": How Automating The Consent Process In SL Addresses Challenges Of Research Online

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ABSTRACT
In this paper, we describe the challenges of acquiring informed consent in a virtual environment, Second Life, and describe our employment of an automated consent bot.

Categories and Subject Descriptors
K.4.1 Public Policy Issues – *ethics, human subjects*.

General Terms
Design, Human Factors, Legal Aspects.

Keywords
Informed consent, virtual environments, Second Life, online research

1. INTRODUCTION

Ethical aspects of conducting *research in online environments* (hereafter *research online*) are often framed in terms of challenges associated with informed consent, confidentiality and anonymity [2], [6]. However, in the research we do at the VIBE (Virtual Information Behavior Environments) project of the Information School, University of Washington, we transform these challenges into opportunities to make observation research online more transparent. Specifically, in collaboration with 2b3d.net, our research team automates the informed consent procedure for observations in openly accessible settings in Second Life (SL) through Harvey, a "consent bot." In this article we describe why online research faces various ethical challenges, and how we streamlined the informed consent process and removed potential conflicts that might arise over the debatable "public" quality of behavior in openly accessible spaces in SL.

Second Life (SL) is a 3D virtual environment in which users are represented by a 3D virtual avatar. In SL, users "live" in a 3D virtual space where they shop for clothes, engage in monetary transactions, build friendships, and virtually do almost anything that can be done in our physical lives (via avatars). Spatial ergonomics are built into SL. Volume decreases if your avatar moves away from a sound source and your avatar's perspective of the space changes with its movements. However, due to the extended capabilities users have in SL such as flying, changing appearance, and creating multiple avatars, awareness of the social presence of others can be challenging. Users might not see the avatar standing a few feet behind them or the one flying over their heads, and not be aware of who is tuning into their conversations. In addition, while users may know through SL's Terms of Service, that Linden Lab retains ownership of SL accounts and any related data [4], [5], it is unclear whether users would be notified if Linden Lab were to use their conversations in SL for other purposes. Conscious of these added layers of ambiguity on the privacy and confidentiality of users' conversations, we sought to increase the transparency of our research by ensuring that the informed consent process be systematically approached with every potential participant through the use of a "consent bot"—which automatically detects the presence of an avatar within 20 meters from the bot's position, and informs these avatars of the researcher's presence, research objectives, activities, and enables the users to accept or decline participation on the spot.

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2. ETHICAL CHALLENGES OF RESEARCH ONLINE

To better understand how our automated consent bot makes observation research in SL systematic and transparent, it is necessary to elaborate on the challenges of research online. Ethical challenges of research online related to informed consent, confidentiality, and anonymity exist for the following reasons:

1. **Blurred boundaries between the public and private.**

SL is open to all, but is owned by Linden Lab. Its terms of service and community standards prohibit remotely *recording* conversations without permission [1], [3].

2. **The debate over whether online "identities," which are distinct from offline identities, are personal information.**

Observation of "public behavior" is exempt of Federal regulations for the protection of Human Subjects unless the data can be used to identify subjects in a personal way [7]. "Public behavior" refers to "behavior that is apparent to an unconcealed observer, without the use of any special or surreptitious equipment, such as binoculars, special microphones, or recording devices" [7]. Based on this definition, note-taking without identifying avatars in a personal way would be public behavior. However, are SL avatars' names personally identifiable information?

3. **Note-taking while being virtually immersed is challenging.**

Note-taking (not copying and pasting conversations) during observations in a virtual environment can be more challenging than in the physical space: the screen estate may not afford being virtually immersed and note-taking simultaneously.

4. **Continuous informed consent disrupts the flow of naturalistic observations.**

Copying and pasting the local chat conversations is a form of recording, and participants' consents need to be obtained to meet Linden Lab and IRB requirements. However, in open spaces where avatars come and go, how can we obtain informed consent continuously without disrupting the flow of naturalistic observations?

3. HARVEY THE "CONSENT BOT": HOW WE STREAMLINED THE INFORMED CONSENT PROCESS

Figure 1 illustrates the logical path that our consent bot, Harvey, takes to inform potential observation participants that a researcher is conducting observations in the SL space in which they find themselves, and subsequently obtains their consent to textually record their local chat conversations.

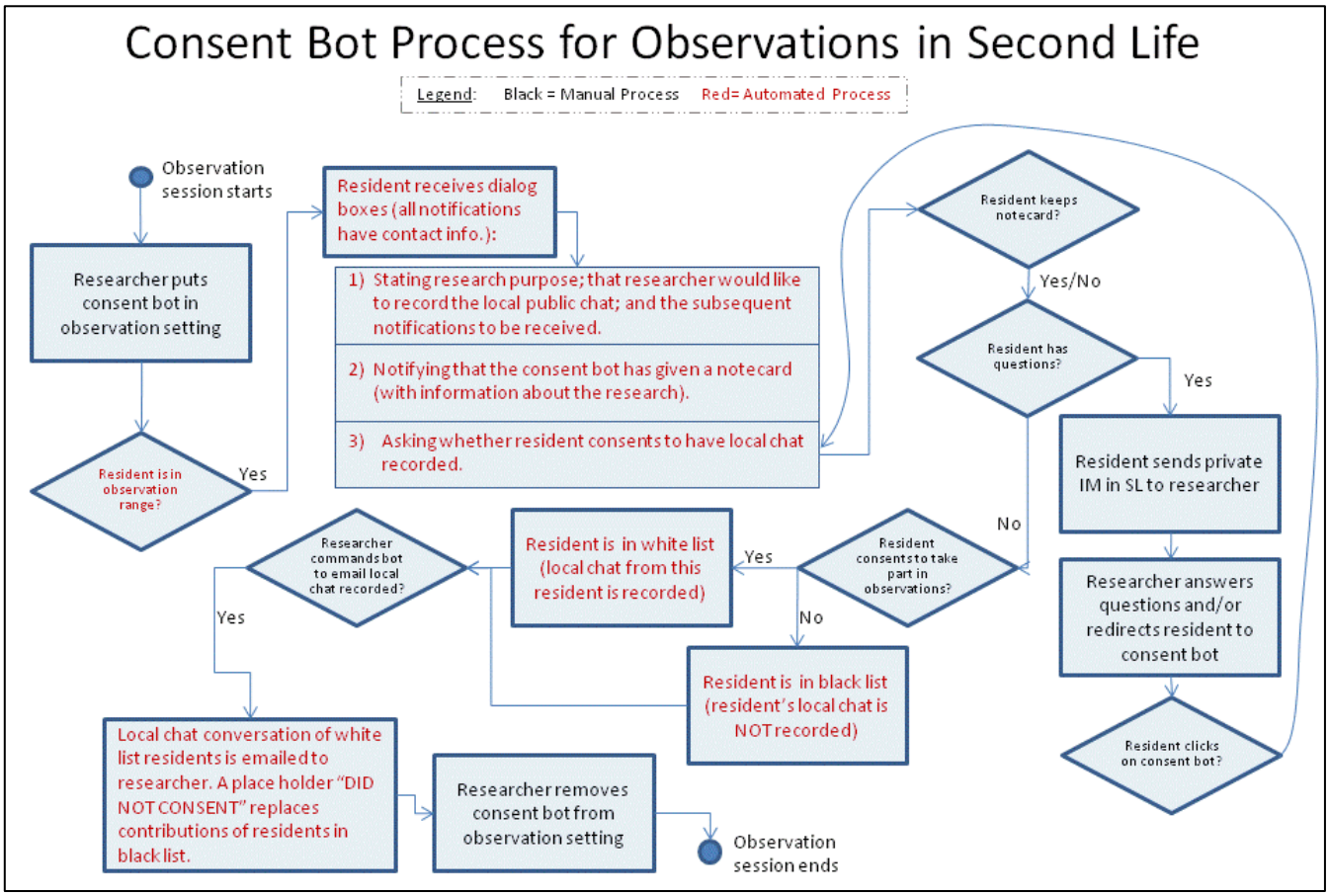

Figure 1. Consent Bot Process for Observations in Second Life

As discussed, our research team was aware that note-taking while simultaneously being immersed in virtual space would be difficult, and the temptation to copy and paste the conversations would always be there. Therefore, by choosing to textually record SL's local chat conversations during times when a researcher was virtually present in an openly accessible SL space, we were clearly positioning ourselves. We could not treat the behavior in SL's openly accessible spaces as "public behavior", in terms of Human Subject's definition. We were also required to obtain explicit consent under Linden Lab's Terms of Service. However, we were faced with the challenge of how to obtain continuous informed consent without disrupting the quality of naturalistic observations. We saw this challenge as an opportunity. We took advantage of the virtual extended capabilities that can be programmed into objects in SL, and in collaboration with 2b3d.net, developed a consent bot named Harvey.

The informed consent process starts when the researcher enters a setting selected for observation and places Harvey, the consent bot object, in the setting. Once out in the field, Harvey sends out a notification in the form of a SL dialog box to any avatar that is within 20 meters of distance (dialog boxes are SL's standard notification system). The dialog box summarizes in one sentence why the avatar is receiving the notification—because "researchers from the VIBE team would like to observe you and record your local chat to help understand patterns of information behavior and improve user experiences in virtual worlds." It is important to note that people tend to not read through long pieces of text. Thus, it was crucial to include the gist of what the potential participant would be consenting to in one short sentence at the beginning of the dialog box. The dialog box also provides the researcher's SL contact information, and summarizes in bullets the steps that the potential participant would go through to complete the informed consent process.

Potential participants would click OK to proceed with the process, or click on "ignore" to ignore the dialog box. If they ignored the

first informational dialog box, their conversations would not be recorded.

For those who clicked OK to the first informational dialog box, they would receive a second dialog box notifying them that the researcher would like to give them a notecard. This notecard contains more information about the research observations. Potential participants would "keep" or "discard" the notecard.

If potential participants kept the notecard, this notecard would pop up, and participants could read more about the research study, including the standard information that is included in a Human Subjects consent form such as purpose of study, confidentiality, and risks. Regardless of whether participants keep or discard the notecard, potential participants receive a third dialog box which asks whether they consent to having their local chat recorded while a researcher conducts observations. This dialog box summarizes again the gist of what the potential participants would be consenting to, in case they didn't read the notecard. The dialog box also provides a URL where participants can read more information about the research activities, and the researchers contact information in SL.

Those who consent (or click yes) go to a white list. Only the local chat conversations of those in the white list are recorded. A "did not consent" text appears in lieu of the textual contribution of those who did not consent or who ignored the consent bot.

Harvey is also designed to take care of those who change their minds or came after the researcher put Harvey in the observation location. In parallel to using Harvey, the researchers also use other non-automated techniques to make potential participants aware of the research activities including "wearing" a researcher sign above their heads and displaying a clearly visible sign that notifies passers-by of the observation activities.

4. CONCLUSION

Conducting research in virtual environments can be challenging when it comes to addressing the requirements of IRB review boards, corporate owners of the virtual environment, and users' expectations. However, the programmable nature of virtual worlds enables the creation of processes that can relieve these concerns. From a user's standpoint, receiving a few informational dialog boxes pushed by the researcher is a small price to pay for being transparently informed about how the user's interactions in that virtual space may be used. We hope that the design of Harvey the consent bot acts as a model of informed consent process in SL and other virtual worlds.

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